

In the Claims

Claims 1-74 (Cancelled).

Claim 75 (Currently amended). An isolated polypeptide selected from the group consisting of:

- a) a polypeptide comprising SEQ ID NO: 34;
- b) a polypeptide consisting of SEQ ID NO: 34;
- c) a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; and
- d) a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 76 (Previously presented). The isolated polypeptide according to claim 75, wherein said polypeptide comprises SEQ ID NO: 34.

Claim 77 (Previously presented). The isolated polypeptide according to claim 75, wherein said polypeptide consists of SEQ ID NO: 34.

Claim 78 (Currently amended). The isolated polypeptide according to claim 75, wherein said polypeptide has at least ~~95~~97% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 79 (Currently amended). The isolated polypeptide according to claim 75, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 80 (Previously presented). The isolated polypeptide according to claim 79, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 81 (Currently amended). The isolated polypeptide according to claim 79, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 82 (Currently amended). A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a polypeptide selected from the group consisting of:

- a) a polypeptide comprising SEQ ID NO: 34;
- b) a polypeptide consisting of SEQ ID NO: 34;
- c) a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; and
- d) a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 83 (Previously presented). The pharmaceutical composition according to claim 82, wherein said polypeptide comprises SEQ ID NO: 34.

Claim 84 (Previously presented). The pharmaceutical composition according to claim 82, wherein said polypeptide consists of SEQ ID NO: 34.

Claim 85 (Currently amended). The pharmaceutical composition according to claim 82, wherein said polypeptide has at least 9597% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 86 (Currently amended). The pharmaceutical composition according to claim 82, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 87 (Previously presented). The pharmaceutical composition according to claim 86, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 88 (Currently amended). The pharmaceutical composition according to claim 86, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 89 (Currently amended). An immunogenic composition comprising an adjuvant and a polypeptide selected from the group consisting of:

- a) a polypeptide comprising SEQ ID NO: 34;
- b) a polypeptide consisting of SEQ ID NO: 34;
- c) a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; and
- d) a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 90 (Previously presented). The immunogenic composition according to claim 89, wherein said polypeptide comprises SEQ ID NO: 34.

Claim 91 (Previously presented). The immunogenic composition according to claim 89, wherein said polypeptide consists of SEQ ID NO: 34.

Claim 92 (Currently amended). The immunogenic composition according to claim 89, wherein said polypeptide has at least ~~95~~97% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 93 (Currently amended). The immunogenic composition according to claim 89, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 94 (Previously presented). The immunogenic composition according to claim 93, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 95 (Currently amended). The immunogenic composition according to claim 93, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 96 (Currently amended). A method of treating viral or acute liver disease comprising administering ~~to an individual having viral or acute liver disease, to an individual having viral or acute liver disease an effective amount of~~ a pharmaceutical composition comprising a carrier and a polypeptide selected from the group consisting of:

- a) a polypeptide comprising SEQ ID NO: 34;
- b) a polypeptide consisting of SEQ ID NO: 34;
- c) a polypeptide having at least ~~95~~97% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; and

- d) a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity;

wherein said pharmaceutical composition is administered in an amount effective to treat said viral or acute liver disease.

Claim 97 (Previously presented). The method according to claim 96, wherein said polypeptide comprises SEQ ID NO: 34.

Claim 98 (Previously presented). The method according to claim 96, wherein said polypeptide consists of SEQ ID NO: 34.

Claim 99 (Currently amended). The method according to claim 96, wherein said polypeptide has at least 9597% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 100 (Currently amended). The method according to claim 96, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 101 (Previously presented). The method according to claim 100, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 102 (Currently amended). The method according to claim 100, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 103 (Previously presented). The method according to claim 96, wherein said acute liver disease is alcoholic liver failure.

Claim 104 (Withdrawn-Currently amended). An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide encoding SEQ ID NO: 34;
- b) a polynucleotide consisting of SEQ ID NO: 33;
- c) a polynucleotide comprising SEQ ID NO: 33;
- d) a polynucleotide encoding a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity;
- e) a polynucleotide encoding a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; and
- f) a vector comprising:
  - i) a polynucleotide encoding SEQ ID NO: 34;
  - ii) a polynucleotide consisting of SEQ ID NO: 33;
  - iii) a polynucleotide comprising SEQ ID NO: 33;
  - iv) a polynucleotide encoding a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity; or
  - v) a polynucleotide encoding a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 105 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide encodes a polypeptide comprising SEQ ID NO: 34.

Claim 106 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide encodes a polypeptide consisting of SEQ ID NO: 34.

Claim 107 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 104, wherein said polynucleotide encodes a polypeptide that has at least 95~~97~~% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 108 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 104, wherein said polynucleotide encodes a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 95~~97~~% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 109 (Withdrawn). The isolated polynucleotide according to claim 108, wherein said polynucleotide encodes a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 110 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 108, wherein said polynucleotide encodes a heterologous sequence fused to a polypeptide having at least 95~~97~~% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 111 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide comprises SEQ ID NO: 33.

Claim 112 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide consists of SEQ ID NO: 33.

Claim 113 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector comprising a polynucleotide encoding SEQ ID NO: 34.

Claim 114 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector that comprises a polynucleotide consisting of SEQ ID NO: 33.

Claim 115 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector comprising SEQ ID NO: 33.

Claim 116 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector comprising a polynucleotide encoding a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 117 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector comprising a polynucleotide encoding a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 118 (Withdrawn). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector that encodes a fusion protein comprising a heterologous sequence fused to SEQ ID NO: 34.

Claim 119 (Withdrawn-Currently amended). The isolated polynucleotide according to claim 104, wherein said polynucleotide is a vector comprising a polynucleotide that encodes a heterologous sequence fused to a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 120 (Withdrawn). An isolated and transformed host cell comprising a polynucleotide encoding SEQ ID NO: 34.

Claim 121 (Withdrawn). An isolated and transformed host cell comprising a polynucleotide consisting of SEQ ID NO: 33.

Claim 122 (Withdrawn). An isolated and transformed host cell comprising SEQ ID NO: 33.



Claim 123 (Withdrawn-Currently amended). An isolated and transformed host cell comprising a polynucleotide encoding a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 124 (Withdrawn-Currently amended). An isolated and transformed host cell comprising a polynucleotide encoding a fusion protein comprising a heterologous sequence fused to: SEQ ID NO: 34; or a polypeptide having at least 9597% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 125 (New). The isolated polypeptide according to claim 75, wherein said polypeptide has at least 98% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 126 (New). The isolated polypeptide according to claim 75, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 98% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 127 (New). The isolated polypeptide according to claim 75, wherein said polypeptide has at least 98% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 128 (New). The isolated polypeptide according to claim 75, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 99% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 129 (New). The pharmaceutical composition according to claim 82, wherein said polypeptide has at least 98% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 130 (New). The pharmaceutical composition according to claim 82, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 98% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 131 (New). The pharmaceutical composition according to claim 82, wherein said polypeptide has at least 99% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 132 (New). The pharmaceutical composition according to claim 82, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 99% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 133 (New). The immunogenic composition according to claim 89, wherein said polypeptide has at least 98% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 134 (New). The immunogenic composition according to claim 89, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 98% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 135 (New). The immunogenic composition according to claim 89, wherein said polypeptide has at least 99% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 136 (New). The immunogenic composition according to claim 89, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 99% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 137 (New). The method according to claim 96, wherein said polypeptide has at least 98% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 138 (New). The method according to claim 96, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 98% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.

Claim 139 (New). The method according to claim 96, wherein said polypeptide has at least 99% sequence identity to SEQ ID NO: 34 and has metalloprotease activity.

Claim 140 (New). The method according to claim 96, wherein said polypeptide is a fusion protein comprising a heterologous sequence fused to a polypeptide having at least 99% sequence identity to SEQ ID NO: 34 and having metalloprotease activity.